

Amendments to the Drawings:

The attached sheet of drawings includes changes to FIG. 7. This sheet, which includes FIG. 7, replaces the original sheet including FIG. 7. FIG. 7 now correctly indicates step 716, consistent with the detailed description.

Attachment: Replacement Sheet

REMARKS/ARGUMENTS

The Examiner is thanked for the clarity and conciseness of the Office Action and for the citation of the references which have been studied with interest and care.

Drawings

The drawings were objected to as failing to comply with 37 CFR 1.84(p)(4) and (5) for the reasons set forth in paragraphs 1 and 2 of the Office Action, respectively.

FIG. 7 has been amended to correctly indicate step 716, consistent with the detailed description. Withdrawal of this objection is respectfully requested.

Claim Rejections - 35 U.S.C. § 112

Claim 4 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.” More specifically, it was asserted that the use of the term “and/or” renders the claim indefinite.

Claim 4 has been amended, not to change the scope of the claim, but rather to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Withdrawal of this rejection is respectfully requested.

Claim Rejections - 35 U.S.C. § 103

Claims 1-4 and 6-8 were rejected over 35 U.S.C. 103(a) as being unpatentable over Dent et al. (US-6,542,716 hereinafter, Dent).

Dent discloses a method for determining the position of a mobile radio telephone in a satellite communication system. The Dent method involves using the continuously transmitted paging service as a mechanism to determine the “strongest signal level.” The paging signal contains order wire information for the users so that the system can be accessed.

Applicants claim a method of determining communication link quality using beacon signals. Claim 1 recites “equipping a plurality of communications satellites with beacon transmitters that generate beacon signals including a continuous wave (CW) tone and a coded signal that are different for each of the communications satellites” and “providing a communications device, that is capable of establishing UHF communications links with the communications satellites, with means for receiving and processing the beacon signals to determine the quality of the UHF communications links.” Applicants teach and claim

providing a beacon signal simultaneously having two types of modulation whose waveforms are known to the user, i.e., the frequency of the CW tone and the particular code used by a given satellite. In contrast, the very purpose of the Dent paging system militates against the user access information being known a priori.

With respect to the assertions made at page 4 of the Office Action, it is respectfully submitted that Dent [col. 5, lines 23-43] provide no disclosure or suggestion of "equipping a plurality of communications satellites with beacon transmitters that generate beacon signals including a continuous wave (CW) tone and a coded signal that are different for each of the communications satellites".

Claims 5 and 9-13 were rejected over 35 U.S.C. 103(a) as being unpatentable over Dent and Wiedeman et al. (US-2002/0032002 hereinafter, Wiedeman).

Wiedeman discloses a low performance warning system and method for mobile satellite service user terminals. As with Dent, Wiedeman pertains to low orbiting L-band satellites. In Wiedeman, a variety of measurements are discussed, e.g., low signal level at the user level, low signal level at the gateway link, inability to receive pilot signals. Although Wiedeman mentions a signal strength or quality metric E_c/N_0 , this ratio by itself fails to distinguish between low signal level and/or excessive noise (claim 12). Moreover, a mechanization to determine the system noise spectral density, N_0 , is not described. Further link impairments such as interference (claim 13) and scintillation (claim 14) are not addressed by Wiedeman.

Claim 14 was rejected over 35 U.S.C. 103(a) as being unpatentable over Dent and Wiedeman as applied to claim 9, and further in view of Duggan (US-4,776,035).

Duggan discloses a lockup detection and avoidance scheme for a satellite communication network. Duggan teaches a scheme to determine and respond to rain attenuation that is a link impairment at the higher microwave and EHF frequencies. Raindrops are small in comparison to the wavelength at lower microwave and UHF frequencies and do not attenuate these signals. Duggan addresses rain fades, not scintillation caused by multipath or ionospheric effects.

Claim 15 was rejected over 35 U.S.C. 103(a) as being unpatentable over Dent and Zamat (US-6,356,744). Claims 16, 18 and 19 were rejected over 35 U.S.C. 103(a) as being unpatentable over Dent and Zamat as applied to claim 15, and further in view of Hegendoerfer (US-6,326,922). Claim 17 was rejected over 35 U.S.C. 103(a) as being unpatentable over Dent and Zamat as applied to claim 15, and further in view of Rudish (US-6,219,006).

Zamat discloses a power measurement circuit, suitable for use in communications devices, and asserts that "there is a need to regulate the power output of a mobile unit in order to conserve power, and to avoid saturation of the base station." [Zamat, column 1, lines 22-24.] More specifically, Zamat teaches a method of power measurement based on autocorrelation techniques, which are not advantageously combined with Applicants' claimed method (e.g., autocorrelation would not reject noise and interference components).

Hegendoerfer discloses a Yagi antenna for operation at L- and S-band frequencies (about 1500 and 2650 MHz respectively). "[T]he antenna design can comprise two flexibly connected plates which can be folded together during transport[.]" [Hegendoerfer, column 3, lines 30-32.]

Rudish discloses an antenna based on a spiral design in a cavity loaded with rods, cones, and rings. The design requires a spiral to be one wavelength in circumference, about 16" in diameter for a typical UHF satellite communication system operating in the 240-270 MHz (downlink) and 290-320 MHz (uplink) frequency range. Aside from its size adapted for such a system, the weight of the dielectric elements is not insignificant.

For the reasons discussed above, it is respectfully submitted that claims 15-19 are not disclosed or suggested by the collective teachings of the cited references.

Claims 20-25 and 28-30 were rejected over 35 U.S.C. 103(a) as being unpatentable over Dent and Wiedeman. Claims 26 and 27 were rejected over 35 U.S.C. 103(a) as being unpatentable over Dent and Wiedeman as applied to claim 25, and further in view of Duggan.

For the reasons discussed above, it is respectfully submitted that claims 20-30 are not disclosed or suggested by the collective teachings of the cited references.

New claims 31 and 32 recite, in relation to independent claims 1 and 20, respectively, the additional step of "correlating a received coded signal with a reference signal to provide estimated values of time delay components resulting from multipath for establishing time delays values in equalization", and are allowable for the reasons discussed above. No new matter is added.

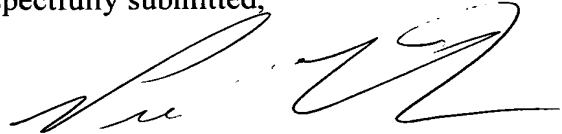
For the reasons discussed above, it is respectfully submitted that none of Applicants' claims are anticipated by any of the cited references and that the claims would not have been obvious to one of ordinary skill in the art over the collective teachings of the cited references. Withdrawal of these rejections is respectfully requested.

CONCLUDING REMARKS

Applicants submit that the application is in condition for allowance. Concurrence by the Examiner and early passage of the application to issue are respectfully requested.

Any additional fees which are required in connection with this communication and which are not specifically provided for herewith are authorized to be charged to deposit account no. 500651. Any overpayments are also authorized to be credited to this account.

Respectfully submitted,



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Peter L. Holmes
Reg. No. 37,353
Attorney for Applicants

HENRICKS, SLAVIN & HOLMES LLP
840 Apollo Street, Suite 200
El Segundo, California 90245-4737
Telephone: (310) 563-1454
Facsimile: (310) 563-1460